



State of Utah

Department of  
Environmental Quality

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*Executive Director*

DIVISION OF AIR QUALITY  
Richard W. Sprott  
*Director*

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*Lieutenant Governor*

DAQE-IN0121152-04

June 11, 2004

Glenn Palmer  
Hill Air Force Base  
OO-ALCM/EMC  
7274 Wardleigh Road  
Hill Air Force Base, Utah 84056

Dear Mr. Palmer:

Re: Intent to Approve: Modification of DAQE-286-02, Consolidated Boiler Permit, Davis County,  
CDS A; Ozone MAINT; NOX and CO Major PSD; NESHAPS, NSPS, HAPs, TITLE V  
MAJOR. Project Code: N0121-152

The attached document is the Intent to Approve (ITA) for the above-referenced project. ITAs are subject to public review. Any comments received shall be considered before an Approval Order is issued.

Future correspondence on this Intent to Approve should include the engineer's name as well as the DAQE number as shown on the upper right-hand corner of this letter. Please direct any technical questions you may have on this project to Mr. Tad Anderson. He may be reached at (801) 536-4456.

Sincerely,

Rusty Ruby, Manager  
New Source Review Section

RR:TA:jc

cc: Davis County Health Department  
Mike Owens, EPA Region VIII

**STATE OF UTAH**

**Department of Environmental Quality**

**Division of Air Quality**

**INTENT TO APPROVE: MODIFICATIONS OF DAQE-286-02,  
CONSOLIDATED BOILER PERMITS**

**Prepared By: Tad Anderson, Engineer**

**(801) 536-4456**

**Email: [tdanderson@utah.gov](mailto:tdanderson@utah.gov)**

**INTENT TO APPROVE NUMBER**

**DAQE-IN0121152-04**

**Date: June 11, 2004**

**Hill Air Force Base**

**Source Contact**

**Glenn Palmer**

**(801) 775-6918**

**Richard W. Sprott**

**Executive Secretary**

**Utah Air Quality Board**

### ***Abstract***

***Hill Air Force Base (HAFB) has submitted a Notice of Intent requesting a modification to the Consolidated Boiler Approval Order (AO) DAQE-286-02 to remove used oil-burning conditions and modify language to match the Title V permit. Used oil combustion is still an allowed activity under this permit, however, conditions already regulated by the Utah Division of Solid and Hazardous Waste have been removed from the AO. Boilers listed in this AO are subject to New Source Performance Standards 40 CFR 60.40Dc (Subpart Dc-Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units). This source is a Major Title V source. The source is subject to National Emissions Standards for Hazardous Air Pollutants (NESHAP's) 40 CFR 63 Subpart GG: National Emission Standards for Aerospace Manufacturing and Rework Facilities, but this consolidation is not subject to this NESHAP. There is no requested emissions increase with this modification. The existing permitted boiler emissions are as follows: 10.28 Tons Per Year (TPY) of PM<sub>10</sub>, 19.96 TPY of SO<sub>2</sub>, 135.26 TPY of NO<sub>x</sub>, 113.62 TPY of CO and 7.44 TPY of VOC.***

***Since conditions in the existing permit are being removed, a 30-day public comment period is required.***

The Notice of Intent (NOI) for the above-referenced project has been evaluated and has been found to be consistent with the requirements of the Utah Administrative Code Rule 307 (UAC R307). Air pollution producing sources and/or their air control facilities may not be constructed, installed, established, or modified prior to the issuance of an Approval Order (AO) by the Executive Secretary of the Utah Air Quality Board.

A 30-day public comment period will be held in accordance with UAC R307-401-4. A notice of intent to approve will be published in the Salt Lake Tribune and Deseret News on June 15, 2004. During the public comment period the proposal and the evaluation of its impact on air quality will be available for both you and the public to review and comment. If anyone so requests a public hearing it will be held in accordance with UAC R307-401-4. The hearing will be held as close as practicable to the location of the source. Any comments received during the public comment period and the hearing will be evaluated.

Please review the proposed AO conditions during this period and make any comments you may have. The proposed conditions of the AO may be changed as a result of the comments received. Unless changed, the AO will be based upon the following conditions:

#### **General Conditions:**

This AO is issued and applies to the following:

##### **Name of Permittee:**

Hill Air Force Base  
OO-ALC/EM  
7274 Wardleigh Road  
Hill Air Force Base, Utah 84056-5137

##### **Permitted Location:**

Main Base, Little Mountain  
OO-ALC/EM  
7274 Wardleigh Road  
Hill Air Force Base, Utah 84056-5137

**UTM Coordinates:** Main Base (4,553,010 meters Northing, 418,622 meters Easting) Zone 12, Datum 1927

**SIC Code:** 9711

## **Section I: GENERAL PROVISIONS**

- I.A. All definitions, terms, abbreviations, and references used in this AO conform to those used in the Utah Administrative Code (UAC) Rule 307 (R307) and Title 40 of the Code of Federal Regulations (40 CFR). Unless noted otherwise, references cited in these AO conditions refer to those rules.
- I.B. The limits set forth in this AO shall not be exceeded without prior approval in accordance with R307-401.
- I.C. All records referred to in this AO which are required to be kept by the owner/operator, shall be maintained for 5 years and shall be made available to the Executive Secretary or a representative upon request
- I.D. At all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any equipment approved under this Approval Order including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Executive Secretary which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. All maintenance performed on equipment authorized by this AO shall be recorded.
- I.E. The owner/operator shall comply with R307-150, UAC. This rule addresses emission inventory reporting requirements.
- I.F. The owner/operator shall comply with R307-107. General Requirements: Unavoidable Breakdowns.
- I.G. This AO in no way releases the owner or operator from any liability for compliance with all other applicable federal, state, and local regulations.
- I.H. This Approval Order (AO) shall replace AO DAQE-286-02, dated April 29, 2002, Consolidated Boiler permit.

## **Section II: SPECIAL PROVISIONS**

### **II.A Emission Units.**

#### **II.A.1 Boilers subject to New Source Performance Standards Dc 40 CFR 60.40c**

The boilers listed in Table 1 have a capacity greater than 10 million BTU per hour and were constructed after June 9, 1989, are subject to New Source Performance Standards 40 CFR 60.40c (Subpart Dc-Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units) and to the limitation in section II.C of this permit.

**Table 1. Boilers subject to New Source Performance Standards Dc 40 CFR 60.40c**

<b>Building Location</b>	<b>Capacity(MMBTU/hr)</b>	<b>AQUIS #</b>
238	20.7	34386
260(#8)	87.5	3507
260(#9)	87.5	3508
1590(#1)	29.0	3415
1590(#2)	29.0	3416
1624(#2)	10.5	3526
1703(#1)	10.5	3419
1703(#2)	10.5	3426
1703(#3)	25.0	34388
2104(#2)	10.46	3536
2203(#2)	10.5	3538
1205 Ltl.Mt.	10.5	34981

#### **II.A.2 Boilers not subject to New Source Performance Standards Dc 40 CFR 60.40c**

The boilers listed in Table 2 either have a capacity less than 10 million BTU per hour or were installed before June 9, 1989 and are not subject to New Source Performance Standards 40 CFR 60.40c (Subpart Dc-Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units), but are subject to the limitation in section II.C of this permit.

**Table 2. Boilers not subject to New Source Performance Standards Dc 40 CFR 60.40c**

<b>Building Location</b>	<b>Capacity (MMBTU/hr)</b>	<b>AQUIS #</b>
260(#2)	80.0	3501

260(#3)	80.0	3502
519(#3)	10.0	38300
519(#4)	8.4	3512
519(#5)	8.4	3513
847	8.61	3541
891	1.27	3574
891	1.27	3575
891	1.27	3542
916	2.51	3576
1286(#1)	60.0	3519
1624(#1)	16.74	3527
1904(#1)	16.74	3530
1904(#2)	8.4	3531
2025(#1)	2.51	3532
2025(#2)	2.51	3533
2025(#3)	2.51	3534
2025(#4)	6.28	34390
2104(#1)	6.28	3535
2203	8.4	3537
1205 Ltl.Mt.	6.9	3518

**II.A.3****Boilers Grandfathered from Utah Administrative Code and from NSPS**

The boilers listed in Table 3 have been installed before November 29, 1969 and are not subject to any unit specific requirements.

**Table 3. Grandfathered Boilers**

<b>Building Location</b>	<b>Capacity (MMBTU/hr)</b>	<b>AQUIS #</b>
3	0.72	3543
260(#4)	50.00	3503
260(#5)	50.00	3504
260(#6)	50.00	3505

260(#7)	50.00	3506
519(#1)	7.10	3510
519(#2)	7.10	3511
825(#1)	60.00	3514
825(#2)	60.00	3515
825(#3)	60.00	3516
860	0.25	3570
890	1.26	3573
1286(#2)	40.00	3520
1286(#3)	40.00	3521
1590(#3)	20.00	3524
1590(#4)	20.00	3525

**II.A.4****Exempt Boilers**

Boilers that meet UAC R307-413-4 Other Exemptions.

### Limitations

**II.B****Testing requirements for boilers with capacities of 50MMBTU per hour or greater**

Emissions of NO<sub>x</sub> shall not exceed the following:

AQUIS #	NO <sub>x</sub> Emission Limit* lbs/hr
3507	7.88
3508	7.88
3501	7.20
3502	7.20
3519	5.40

\*Emission limits are calculated as the product of 0.09 lb/MMBtu \* Rated Capacity in MMBtu/hr

**II.B.1****Monitoring:**

Stack testing shall be performed as specified below:

- (a) Frequency. Emissions shall be tested every (3) three years based on the most recent stack test.
- (b) Notification. At least 30 days before the test, the source shall notify the Executive Secretary of the date, time, and

place of testing and provide a copy of the test protocol. The source shall attend a pretest conference if determined necessary by the Executive Secretary.

(c) Methods

- (1) Sample Location - the emission point shall conform to the requirements of 40 CFR 60, Appendix A, Method 1, and Occupational Safety and Health Administration (OSHA) approved access shall be provided to the test location.
- (2) 40 CFR 60, Appendix A, Method 7, 7A, 7B, 7C, 7D, or 7E shall be used to determine the pollutant emission rate.
- (3) 40 CFR 60, Appendix A, Method 2, or Method 19 shall be used to determine the volumetric flow rate.

(d) Calculations. To determine mass emission rates (lb/hr, etc.) the pollutant concentration as determined by the appropriate methods above shall be multiplied by the volumetric flow rate and any necessary conversion factors determined by the Executive Secretary to give the results in the specified units of the emission limitation.

(e) Production Rate During Testing. The production rate during all compliance testing shall be no less than 90% of the maximum production achieved in the previous three (3) years unless the Executive Secretary or representative agrees to an alternative production rate.

II.B.2 Recordkeeping: Results of stack tests shall be maintained in accordance with condition I.C. of this AO.

II.B.3 Reporting: Hill Air Force Base shall submit the results of the stack tests to the Executive Secretary within 60 days of completion of the testing. Results shall clearly identify test results as compared to permit limits and indicate compliance status.

**II.C Base Wide Limitations on heat input**

The combined heat input to all boilers as defined in this permit except those classified as exempt and grandfathered shall not exceed 2.76E12 BTU per rolling 12-Month period.

II.C.1 Monitoring: The fuel use for all affected boilers shall be monitored monthly. Within 30 days of the previous month, the 12-month total heat input from all affected boilers shall be calculated using fuel use records and the following heat conversion factors.



1. For JP-8, 123,000 BTU/gallon
2. For JP-10, 141,500 BTU/gallon
3. For No. 2 Fuel Oil, 141,000 BTU/gallon
4. For Diesel, 137,000 BTU/gallon
5. For Natural Gas/ Propane, 1020 BTU/SCF
6. For Used Oil, 141,000 BTU/gallon

II.C.2            Recordkeeping:            All monitoring records shall be maintained in accordance with section I.C. of this permit.

II.C.3            Reporting:                        There are no reporting requirements for this provision.

**II.D.            Limitation on Opacity**

Visible emissions shall be no greater than 20 percent opacity for all boilers as defined in this permit except those classified as exempt and grandfathered

- II.D.1            Monitoring:
- A            For boilers operating on natural gas only, in lieu of monitoring via visible emission observations the permittee shall monitor fuel usage to demonstrate that only pipeline- quality natural gas is being used as fuel.
  - B.            For all other boilers operating on fuel other than natural gas, once per month the permittee shall apply one of the following monitoring techniques to each affected emission unit:
    - (1)            A visual opacity survey conducted by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. If any visible emissions other than condensed water vapor are observed from an emission point, an opacity determination of that emission point shall be performed by a certified VEO in accordance with 40 CFR 60, Method 9 within 24 hours of the initial visual opacity survey.
    - (2)            photogrametric opacity determination shall be conducted by an individual trained on the observation procedures of 40 CFR 60, Appendix A, Method 9. If a visible emission with opacity of 15 percent or more is observed, an opacity determination of that emission point shall be performed a certified VEO in accordance with 40 CFR 60, Method 9 within 24 hours of the initial photogrametric opacity determination.

Different monitoring techniques can be applied to different affected emission units or to a given affected emission unit from month to month.

II.D.2            Record keeping:            For boilers fired on natural gas, the permittee shall maintain records such as gas bills, and gas meter readings to demonstrate

natural gas usage. For all other boilers, the permittee shall maintain a log of visual opacity surveys and photogrametric observations which include the following information for each affected emission points checked: the date and time of each visual opacity survey or photogrametric observation, the specific monitoring technique used (opacity survey or photogrametric observation) and the result of the opacity monitoring. All data required by 40 CFR 60, Appendix A, Method 9 will also be maintained in accordance with this permit.

II.D.3            Reporting:            There are no reporting requirements for this provision.

Annual emissions for the boilers at Hill Air Force Base are currently calculated at the following values:

	<u>Pollutant</u>	<u>Tons/yr</u>
1.	PM <sub>10</sub>	10.28
2.	SO <sub>2</sub>	19.96
3.	NO <sub>x</sub>	135.26
4.	CO	113.62
5.	VOC	7.44

The Division of Air Quality is authorized to charge a fee for reimbursement of the actual costs incurred in the issuance of an AO. An invoice will follow upon issuance of the final Approval Order.

Sincerely,

Rusty Ruby, Manager  
New Source Review Section